

This listing of claims will replace all prior versions, and listings, of claims within the instant application.

LISTING OF CLAIMS:

Claim 1 (Currently Amended) A programmable device, comprising:

a substrate;

an insulator located on [[said]] a substrate;

[[an]] elongated a semiconductor material structure located on said insulator, said elongated semiconductor material structure including a first end portion, a second end portion, and a fuse link, wherein said fuse link laterally contacts said first end portion and said second end portion and has a pair of parallel sidewalls separated by a substantially uniform width throughout an entirety thereof having first and second ends, and an upper surface, said first end portion being substantially wider than said second end and comprising comprises a rectangular portion and a plurality of integral triangular-shaped portions, said rectangular portion includes a pair of coplanar sidewalls that are coplanar with each other, contacting sidewalls of said fuse link, and substantially perpendicular to said pair of parallel sidewalls, wherein said plurality of integral triangular-shaped portions is laterally spaced from said pair of parallel sidewalls by said pair of coplanar sidewalls, and sidewalls of said plurality of integral triangular-shaped portions, said pair of coplanar sidewalls, and said pair of parallel sidewalls form forming openings which face generally toward said second end portion[[,]]; and

a metallic material structure located on [[said]] an upper surface of said semiconductor material structure and including a[[,]] said metallic material that is being physically migratable

along said upper surface responsive to an electrical current-I flowable through said semiconductor material structure and through said metallic material structure.

Claim 2 (Currently Amended) The programmable device as claimed in claim 1, further comprising an energy source connected to said ~~elongated~~ semiconductor material structure, for causing an electrical current to flow through said ~~elongated~~ semiconductor material structure and through said metallic material structure, and for causing said metallic material to migrate along said upper surface.

Claim 3 (Currently Amended) The programmable device as claimed in claim 1, wherein said ~~elongated~~ semiconductor material structure comprises a doped polysilicon.

Claim 4 (Original) The programmable device as claimed in claim 1, wherein said metallic material comprises a metallic silicide.

Claim 5 (Original) The programmable device as claimed in claim 1, wherein said metallic material is a metallic silicide selected from the group consisting of WSi₂, NiSi₂ and CoSi₂.

Claim 6 (Cancelled)

Claim 7 (Currently Amended) The programmable device as claimed in claim 1, wherein said second end portion comprises an oblong-shaped portion.

Claim 8 (Currently Amended) The programmable device as claimed in claim 1, wherein said metallic material structure is disposed on the entire upper surface of said elongated semiconductor material structure.

Claim 9 (Original) The programmable device as claimed in claim 1, wherein said metallic material is a semiconductor alloy.

Claim 10 (Currently Amended) The programmable device as claimed in claim 1, wherein said elongated semiconductor material structure includes [[is]] N+ polysilicon and said metallic material is WSi₂.

Claim 11 (Cancelled)

Claim 12 (Currently Amended) The device as claimed in claim [[11]] 1, wherein said central portion has a maximum substantially uniform width [[of]] is less than approximately one micron.

Claim 13 (Currently Amended) The device as claimed in claim [[11]] 1, wherein said central portion pair of parallel sidewalls has a length of less than approximately two microns.

Claim 14 (Currently Amended) The device as claimed in claim [[11]] 1, wherein said central portion fuse link and said second end portion form a T-shaped member.

Claim 15 (Withdrawn) A method of programming a device, comprising: providing a semiconductor device having a first end and a second end, the first end being wider than the second end and forming openings facing in directions generally toward the second end, and flowing an electrical current at a voltage through a device having a semiconductor alloy disposed on a doped semiconductor line, for a time period such that a portion of the semiconductor alloy irreversibly and permanently migrates from a first end of the device to a location proximate to a second end of the device.

Claim 16 (Withdrawn) The method as claimed in claim 15, wherein said step of flowing causes heating of the semiconductor alloy.

Claim 17 (Withdrawn) The method as claimed in claim 15, wherein said step of flowing further comprises migrating an amount of the semiconductor alloy to the location sufficient to melt the doped semiconductor line and to cause an open circuit.

Claim 18 (Withdrawn) The method as claimed in claim 15, wherein the time period is a time period within a range of approximately 150 μ S to approximately 350 μ S, and the electrical current is approximately five mA.

Claim 19 (Withdrawn) The method as claimed in claim 16, wherein said step of flowing causes heating of the semiconductor alloy to a temperature of approximately 2160 °C.

Claim 20 (Withdrawn) The method as claimed in claim 15, wherein said voltage is 4.7 volts, said current is 5 mA, and said time period is 250 μ S.

Claim 21 (Withdrawn) A method of fabricating a programmed semiconductor device, includes: providing a semiconductor substrate having a thermal insulator; disposing an elongated semiconductor material on the insulator, the semiconductor material having an upper surface, a first resistivity, and two ends, one of the two ends forming openings facing in directions generally toward the other end; disposing a metallic material on the upper surface; the metallic material having a second resistivity much less than the first resistivity of the semiconductor material; flowing an electrical current through the semiconductor material and the metallic material for a time period such that a portion of the metallic material irreversibly and permanently migrates from one end of the semiconductor material to the other end and melts the semiconductor material to form an open circuit.

Claim 22 (Withdrawn) The method as claimed in claim 21, wherein the first resistivity is approximately equal to 10 times the second resistivity.

Claim 23 (Withdrawn) The method as claimed in claim 21, wherein the first resistivity is a substantially uniform resistivity in a range of approximately 100 ohms per square to approximately 200 ohms per square, and wherein the second resistivity is a substantially uniform resistivity in a range of approximately 15 ohms per square to approximately 30 ohms per square.

Claim 24 (Withdrawn) The method as claimed in claim 21, wherein a combined resistivity of the elongated semiconductor material and the metallic material is a substantially uniform resistivity in a range of approximately 17 ohms per square to approximately 25 ohms per square.

Claim 25 (New) The programmable device as claimed in claim 1, wherein said rectangular portion further comprises:

a first sidewall that is parallel to said pair of coplanar sidewalls and perpendicular to said pair of parallel sidewalls; and

a pair of second sidewalls that is parallel to said pair of parallel sidewalls, perpendicular to said pair of coplanar sidewalls, and adjoined to said first sidewall, wherein said rectangular portion and said plurality of integral triangular-shaped portions laterally contact one another, and said first sidewall and said pair of second sidewalls contiguously contact a sidewall spacer.